Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers	))))	WC Docket No. 03-173

REPLY DECLARATION OF

JOHN C. KLICK

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I. QUALIFICATIONS

1. My name is John C. Klick. I am Senior Managing Director of the Network Industries Strategies group of FTI Consulting, Inc. My offices are located at 1201 I Street, NW, Suite 400, Washington, D.C. 20005. I previously submitted a declaration in this proceeding on December 16, 2003, in which I described my qualifications.

II. INTRODUCTION AND SUMMARY CONCLUSIONS

2. I have been asked by AT&T Corp. ("AT&T") to respond to testimony – submitted by various incumbent local exchange carriers ("ILECs") in opening comments filed on December 16, 2003 – relating to several of the issues raised in the NPRM. For the reasons explained here, and in my initial Declaration, I continue to believe that the FCC's TELRIC pricing standard as currently implemented is fundamentally sound and should be retained.

3. In its *Local Competition Order*, the FCC determined that a long-run, forward-looking cost standard would be the best way of replicating the performance of a

competitive (or contestable) market in setting rates charged by ILECs for access to their local networks. Both the Commission and the United States Supreme Court explicitly have found that an embedded cost standard, including the replacement cost of an ILEC's embedded network, was prohibited by the 1996 Act, would perpetuate the effects of existing inefficiencies in the ILECs' operations by increasing prices that CLECs would pay for interconnection, and would therefore be inconsistent with the competitive market standard. As I demonstrated in my initial Declaration, other regulatory agencies have drawn similar conclusions with respect to the advantages of long-run forward-looking cost standards, and leveled similar criticisms at embedded cost standards.

4. The NPRM makes clear that the Commission remains committed to the TELRIC standard, but it raises a series of questions about how the standard should be implemented. However, many of the alternatives on which the Commission seeks comment, if adopted, would be fundamentally inconsistent with TELRIC. In addition, as I discussed in my initial Declaration, many of the Commission's proposals would require data about the ILECs' existing operations that are not readily available, unlikely to be easy to obtain and process, and almost certainly inaccurate. My initial Declaration suggested a "litmus test" for evaluating the modifications proposed in the NPRM, *i.e.*, would they move the Commission's standards closer to or further away from the competitive (contestable) market standard. I suggested the Commission look to the experience of other network industries as a check on the appropriateness of its current standard. If the Commission does so, it will conclude that the current standard, as currently implemented, is fundamentally sound and would not be improved by implementation of most of the alternatives proffered in the NPRM.

III. ILEC FOCUS ON FACILITIES-BASED COMPETITION IS REVEALING

5. In my initial Declaration, I noted that the ILECs' contentions that the Commission's TELRIC standards should be modified to promote facilities-based competition (by, of course, increasing UNE prices) were flatly inconsistent with the views of incumbents in other network industries, and economically irrational, particularly where excess capacity exists. Klick Decl. at ¶¶ 11-13.[1]

6. The Opening Comments of various ILECs in this proceeding are imbued with this inconsistency. Verizon, for example, argues that it faces increasing competition from cable telephony, VoIP, and wireless for both customers and traffic; that this competition has already eroded the utilization of its facilities; and that further erosion can be anticipated in the short-term. Verizon at 19-24. SBC sounds similar themes in its Opening Comments. SBC at 8, 25.

7. If competition from cable telephony, VoIP and wireless were, in fact, substantially eroding utilization of ILECs' existing facilities – or were poised to do so in the near future – ILECs would be doing everything in their power to maintain utilization on their wireline networks. This would include offering reduced wholesale rates for traffic and customers that might otherwise be lost to these forms of competition. In the face of substantial intermodal competition, the ILECs would rationally reduce these wholesale rates to levels only slightly above short run marginal costs, which are near zero. Instead, ILECs argue that current wholesale prices for loops, switches and transport are too *low*, and that these prices should be raised to encourage construction of additional wireline facilities – at a time when they allege that utilization on *existing* wireline

[1] Dr. Weisman, who filed an initial Declaration on Qwest's behalf, is willing to assume that incumbents are "operating with excess capacity." Qwest Weisman at 11, n. 45.

facilities already is being eroded. But existing UNE prices are based on the long-run incremental costs incorporated into TELRIC, which are almost certainly far higher than the short-run incremental cost levels that would inform ILEC pricing if the ILECs were subject to substantial intermodal competition.[2]

8. ILECs cannot have it both ways. Either (1) their rhetoric on intermodel competition is overblown -- in which case the goal of the 1996 Act to promote intramodal competition through *all three* distinct channels (resale, access to UNEs at cost-based rates, and facilities-based competition) remains appropriate, or (2) their desire to promote *additional* facilities-based competition is economically irrational and socially undesirable. As I noted in my initial Declaration, the most likely reason ILECs advocate facilities-based competition is that intermodal competition is at a nascent stage and incapable of exerting meaningful competitive pressure; ILECs therefore have supra-competitive profits to protect; and they recognize that UNE-based entry is the mechanism by which CLECs can compete most immediately and, over the longer run, most feasibly generate the critical mass of customers required to eventually transition to being effective

[2] A similar inconsistency is raised by ILEC Opening Comments that suggest that carrier of last resort ("COLR") obligations increase ILEC costs, and that these higher costs should be reflected in UNE prices. BellSouth at 7; BellSouth NERA at ¶ 24; Verizon at 45; SBC at 25. As a threshold matter, because TELRIC is based on the forward-looking cost of providing sufficient network facilities to serve *all* of the ILECs customers, it includes the costs associated with COLR as part of the UNE cost calculated for each loop (Qwest appears to acknowledge as much. Qwest at 41). In addition, as Dr. Willig explains in his Reply Declaration, to the extent there are costs associated with COLR that are not reflected in TELRIC, the appropriate solution is to include these costs as a component in the development of the appropriate size for the Universal Service Fund – not to somehow include artificial "inefficiencies" in the calculation of TELRIC. As compared to a UNE-based regime, however, the facilities-based competition advocated by the ILECs would serve to exacerbate the COLR problems the ILECs allege, because facilities-based competitors would almost certainly focus on constructing facilities in areas that serve the most desirable customers and, therefore, areas that are least likely to relieve the ILECs COLR responsibilities.

facilities-based competitors. By making UNE-based entry more costly, ILECs seek to prevent CLECs from entering the market. The ILECs advocate higher UNE prices (by advocating versions of embedded costs, or use of inefficient utilization assumptions) not because they believe that it is consistent with the Commission's desire to see more facilities-based competition, but because they expect such prices would significantly suppress both facilities-based and non-facilities-based local competition altogether.

IV. ALTERNATIVES TO TELRIC

9. The NPRM "seek[s] to preserve [the current UNE pricing regime's] forward-looking emphasis and its pro-competitive purposes, while at the same time making it more transparent and theoretically sound." NPRM at ¶ 4. More specifically, the NPRM states that

> Perhaps the most controversial aspect of the TELRIC rules is the assumption that the cost of a UNE should be calculated based on the cost of ubiquitous deployment of the most efficient technology currently available. In implementing this requirement, current TELRIC models typically are designed to answer the following question: If a single carrier were to build an efficient network today to serve all customer locations within a particular geographic area, taking as given only the locations of existing wire centers, how much would it cost to construct and maintain the network?

Id. at ¶ 49, footnote deleted.

10. The NPRM suggests that this feature of the current TELRIC regime is in "tension" with the assumption that the hypothetical competitor "benefits from the economies of scale associated with serving all of the lines in a study area," and it tentatively concludes that TELRIC should "more closely account for the real-world

attributes of routing and topography of an incumbent's network in the development of forward-looking costs." *Id.* at ¶¶ 50-52.

11. The NPRM seeks comment on three alternative approaches to implementing this tentative conclusion. First, it suggests that because the ILECs have been subject to price cap regulation, embedded costs might be a good proxy for forward-looking costs. *Id.* at ¶ 58. Second, the NPRM seeks comment on a definition of "forward-looking costs" of an element as today's cost of reproducing that element today (that is, the cost of duplicating in precise form that exact element in its exact location today). *Id.* at ¶ 53. Finally, the NPRM suggests the possibility of defining the "relevant network" as one that incorporates planned upgrades over a three- to five-year planning horizon, as reflected in ILECs' "actual engineering plans." *Id.* at ¶ 54.

A. Price Caps Do Not Ensure That An ILEC's Embedded Costs Are Efficient

12. Opening Comments by virtually every ILEC embrace the notion that as a result of price cap regulation, it is appropriate to assume that the ILECs' embedded costs are "efficient." BellSouth, for example, asserts that "[c]oupling the efficiency incentives of price regulation with the additional incentives created by the Telecommunications Act opening the local exchange market to competition, the Commission can *conclude* that ILECs are efficient." BellSouth at 19.[3] Similarly, SBC argues "[a]ll major ILECs have been subject to price cap regulation for many years, and such regulation has given them powerful incentives to maximize the efficiency of their networks and operations." SBC

[3] NERA, on behalf of BellSouth, argues that the existence of price caps should entitle ILECs to a *presumption* of efficiency, arguing that there is no "observable benchmark that could serve as an efficiency standard." NERA at ¶ 66.

at 25. On the strength of this mere assertion, SBC argues that "[t]he Commission should make this presumption of network efficiency ... *irrebuttable* as to all LECs subject to price cap regulation in a particular state." *Id.* at 26-27, emphasis supplied.

13. As I noted in my initial Declaration, the Commission's *Local Competition Order* explicitly considered and rejected embedded costs as the basis for UNE prices. *Local Competition Order* at ¶¶ 704-707. In doing so, the Commission found that "[t]he substantial weight of economic commentary in the record suggests that an 'embedded cost'-based pricing methodology would be pro-competitor – in this case the incumbent LEC – rather than pro-competition." In *Verizon Communications*, the Supreme Court went further, noting that:

> As for an embedded-cost methodology, the problem with a method that relies in any part on historical cost, the cost the incumbents say they actually incur in leasing network elements, is that it will pass on to lessees the difference between most-efficient cost and embedded cost.[4] See First Report and Order ¶ 705. Any such cost difference is an inefficiency, whether caused by poor management resulting in higher operating costs or poor investment strategies that have inflated capital and depreciation. If leased elements were priced according to embedded costs, the incumbents could pass these inefficiencies to competitors in need of their wholesale elements, and to that extent defeat the competitive purpose of forcing efficient choices on all carriers whether incumbents or entrants. The upshot would be higher retail prices consumers would have to pay. *Id.*, ¶¶ 655 and 705.

[4] In theory, embedded cost could be lower than efficient cost, see Brief for Respondent Federal parties 17, n. 8 (though the incumbents, understandably, do not avail themselves of this tack); in which case the goal of efficient competition would be set back for the different reason of too much market entry.

14. As I explained in my initial Declaration, there are three interrelated reasons why the mere existence of some form of price cap regulation does not mean that an ILEC's embedded costs can be presumed to be efficient.

15. First, it is widely recognized that competitive and contestable markets are most effective at forcing firms to become for efficient and to innovate:

> The reason that competition is superior to regulation is twofold: Pricing is more efficient and costs are lower. The ideal sales price is set at the efficient level (compared to other prices in the economy), and is beyond the influence of the utility, giving maximum incentive to reduce costs and innovate as the only ways to increase profits. This ideal is most closely approached in competitive industries with many non-colluding firms or contestable entry conditions, where the price is set by other firms. If competition is sufficiently intense, then the rents (the benefits of having the utility) will be entirely transferred to consumers, eliminating the inefficiency caused by attempts to capture the rents (by monopoly, or mandated cross-subsidies which make prices differ from their efficient level).[5]

16. Price caps, on the other hand, remain a form of regulation, which means that ILECs remain insulated from the discipline of competitive or contestable markets.

> Price increases send a very important signal, and a very important set of information, to producers and potential producers about what kind of investment needs there are to satisfy market demand. As scarcity becomes more binding, existing producers earn more money from it and potential producers see profit opportunities in alleviating it, which they would do by investing and entering the market. Price caps short-circuit this investment incentive and serve to worsen supply shortages.[6]

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[5] Newbery, D., *Privatization, Restructuring, and Regulation of Network Utilities*, 2000.

[6] Kiesling, L., "Ontario Steps Back From Electricity Deregulation," http://www.rppi.org/ontariojanpw03.html.

17. In addition, my initial Declaration noted that it would be surprising if ILEC's that operate under a price cap regime achieved the same level of cost reductions that have been observed in other network industries that have transitioned to a less-regulated environment, because the penalty for sub-optimal performance is much less severe for regulated firms operating under price cap regimes than for firms operating in competitive or contestable markets. Firms operating under price cap regulation do not face the prospect of actually losing significant portions of their demand, and therefore do not face the same incentives to reduce costs. The threshold difference is that firms that fail to perform in competitive/contestable markets cease to exist.

18. Second, the provision of telecommunications services is characterized by substantial joint and common costs. Thus, even under price cap regulation numerous opportunities continue to exist to allocate costs in ways that, while consistent with price caps across the company as a whole, allow the carrier to report lower costs (or deeper cost savings) in those markets where relatively more competition exists, and higher costs (or shallower cost savings) in less competitive markets. Dr. Selwyn's Reply Declaration discusses this aspect of price cap regulation at length – particularly as it is applied in the telecommunications industry. As a result, the Commission cannot merely assume (or, as the ILECs request, codify a rebuttable – or, in the extreme, an irrebuttable – presumption) that costs that have been allocated arbitrarily (because all allocations of joint and common costs are inherently arbitrary) reflect efficiencies that would be experienced by customers if provision of service to those customers were exposed to the discipline of competitive/contestable markets. The Commission's decision, in the *Triennial Review Order*, that CLECs should not have access to the broadband portion of hybrid fiber copper loops creates a classic opportunity for this sort "gamesmanship." To the extent

provision of local service (and corresponding UNEs) is less competitive and provision of broadband services is more competitive, imagine how ILECs might be able to change the allocation of the joint and common loop plant between these services simply by advocating different allocation approaches, *i.e.*, assessing one or the other service only its incremental costs, allocating joint and common costs on the basis of customer counts, allocating joint and common costs based on relative revenues, allocating joint and common costs on the basis of relative bandwidth, and so on. *Cf.* Bellsouth/NERA at¶ 40.

19. In *Verizon Communications*, the Supreme Court explicitly recognized this problem, noting that:

> There are, of course, objections other than inefficiency to any method of ratemaking that relies on embedded costs as allegedly reflected in incumbents' book-cost data, with the possibilities for manipulation this presents. Even if incumbents have built and are operating leased elements at economically efficient costs, the temptation would remain to overstate book costs to ratemaking commissions and so perpetuate the intractable problems that led to the price-cap innovation.[7]

20. The third reason discussed in my initial Declaration that prevents the mere existence of price cap regulation from translating into efficient ILEC networks relates to regulatory impediments that generally constrain companies subject to price caps from taking full advantage of this regulatory structure. I noted that the effectiveness of price cap regulation in squeezing inefficiencies out of existing operations is constrained by the perceptions of regulatory risk. These perceived risks can create incentives for companies subject to price cap regulation to minimize the size of the productivity offset (the "x" factor), and to manage efficiencies so that improvements in profitability and rate of return

[7] 535 U.S. 467, 513.

are not so dramatic as to create political pressure to increase the productivity offset, implement excess profits taxes, or institute some other form of sharing of cost savings with customers.[8] By definition, the incentives to be more efficient created by competitive or contestable markets have no such institutional constraints.

21. I also noted that other aspects of the regulatory environment create incentives that cut against those that may otherwise exist to improve efficiency under price cap regulation. I cited the example of SBC's Project Pronto, where significant portions of the copper local loop network are being overlaid with fiber, but where SBC may have resisted eliminating the copper facilities so that it could improve its chances of persuading the Commission to unbundle only its legacy copper-fed loops.

22. The best evidence that the Commission cannot presume that existing ILEC networks are efficient comes from the Opening Comments filed by the ILECs themselves. All of the ILECs note that, even when new, more efficient technologies become available, the ILECs do not instantaneously incorporate those technologies into their networks. SBC at 15-16; BellSouth at 11; Verizon at 4. The ILECs make this point

[8] *See*, generally *Unlocking the Benefits of Restructuring: A Blueprint for Transmission*, Awerbach, Hyman and Vesey, November, 1999 ("Pure price caps allow the regulated firm to retain all the fruits of its success within the constraints of the price level and the period of the price cap. This benefit of price-caps, however, also contains the seeds of its problems. Even thought ITC's profits are technically unrestricted, if the ITC is highly profitable, regulators find themselves politically vulnerable by having 'allowed' excess profits. They then may feel compelled to re-open price cap issues before the end of the regulatory review period or to reduce prices at the end of that period"); *PBR Options for Electricity Distribution In Ontario*, Ontario Energy Board Staff Report, October 15, 1998, at 21-23; *X marks the spot: how performance based ratemaking (PBR) affected returns to wirecos in the UK*, London Economics, June 2001, at 18-20; *Electricity Reform Abroad and U.S. Investment, Privatized Electricity: A Performance Appraisal*, http://www.eia.doe.gov/emeu/pgem/electric/ch217.html; at 3-5. Dr. Selwyn's Reply Declaration discusses ILEC efforts to minimize, or do away with entirely, the productivity offset.

in the context of arguing that TELRIC should not reflect the ubiquitous deployment of the most efficient technology deployed in the most efficient manner possible – an argument I address below. Its significance, for the present discussion, is that if ILECs transition only slowly to more efficient technologies deployed in more efficient configurations, this *must* mean that their existing technologies in their existing configurations are *not* efficient.[9]

B. Replacement Cost of Existing Assets In Their Existing Configuration (*i.e.*, Reproduction Costs) Is Not An Appropriate Basis For Establishing UNE Prices

23. This is the standard for establishing UNE prices that is effectively advocated by the ILECs' Opening Comments, and my initial Declaration explained why this standard cannot be relied upon. I noted that the FCC itself has clearly explained why the current cost of existing facilities in their existing configuration (*i.e.*, reproduction costs) is not an appropriate standard. See FCC Reply Brief in *Verizon Communications Inc. v.* FCC ("*Verizon* Communications").[10]

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[9] The accompanying Declaration of Menko, McCloskey and Brand finds that embedded empirical data provided by Verizon strong suggest that Verizon has been unable to achieve reasonable overall levels of efficiency, despite whatever goad price caps may have provided.

[10] In relevant part, the FCC stated:

> The incumbents appear to be proposing a methodology based on the "actual" cost, in today's market, of duplicating "actual" existing networks in all physical particulars – or, stated differently, the "application of up-to-date prices to out-of-date properties." James C. Bonbright et al., *Principles of Public Utility Rates* 294 (1988). Economists, including those upon whom the incumbents rely, uniformly agree that such a measurement is "economically meaningless." *Ibid*; accord 1 Alfred E. Kahn, *The Economics of Regulation: Principles & Institutions* 112 (1988); see also *Missouri ex rel. S.W. Bell Tel. Co. v. Public Serv. Comm'n*, 262 U.S. 276, 312 (1923) (Brandeis, J., dissenting) (disparaging, as the *least* appropriate cost methodology, an inquiry into "what it would cost to reproduce the identical property"). The FCC considered, but rejected, such an approach as

24. As the ILECs note, they do not immediately transition to more efficient technologies deployed in a more efficient configuration; but this is because the sunk nature of a large share of telecommunications costs means that continuing to deploy and use existing technologies in their existing configurations often has a lower incremental cost than replacing those assets with current technology. As soon as the incremental cost of deploying more efficient technologies in more efficient configurations – the cost level consistent with the way in which the FCC *currently* implements TELRIC – becomes less than the incremental cost of continuing to use existing technologies in their existing configurations, ILECs do (or, at least, should) make the change.[11] Thus, TELRIC should always be equal to or *higher* than the ILEC's incremental costs of continuing to use existing technologies.

25. ILECs, however, seek to have it both ways. They seek to embrace the sunk cost nature of the industry when they argue that TELRIC should reflect their current mixes of technologies, cable routes, structure types and utilization levels. But when it comes time to develop the investment costs associated with these assets they suddenly

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"essentially an embedded [*i.e.*, historical] cost methodology," which would produce "prices for interconnection and unbundled elements that reflect inefficient or obsolete network design and technology." *Local Competition Order*(para. 684), J.A. 383. Such prices would distort a competing carrier's analysis of whether, or how, to enter a local telecommunications market, by encouraging, for example, the carrier to construct inefficient, duplicative facilities. See *Local Competition Order* (paras. 620, 630, 679), J.A. 327-328, 333-334, 379-380.

[11] *See* Verizon/Shelanski at ¶ 7; *accord*, I Alfred Kahn, *The Economics of Regulation* 118 (1970) ("If the AVC_0 are smaller than the ATC_0 it is economical to continue to use the old capital goods. But if, *regardless* of the fixed costs of the old, the AVC_0 are the greater, it is foolish not to scrap; every moment of continued production with the old means a greater drain on the company's resources, a greater avoidable cost of production than would be involved in replacement."

ignore the fact that the incremental cost of their sunk assets is *zero*, and seek to suggest that CLECs should pay the current cost of constructing *de novo* these inefficient facilities and network configurations.

26. In contrast, the FCC's current TELRIC standard – which is based on the current cost of constructing an efficient network to serve the totality of an ILEC's customers – is economically rational and internally consistent. To the extent ILECs actually enjoy reduced costs by continuing to rely on sunk assets, TELRIC *overstates* the costs currently incurred by the ILECs; on the other hand, to the extent that deploying new technologies efficiently is less expensive than continuing to rely upon sunk assets, UNE prices set at TELRIC are sufficient to fully compensate the ILECs for doing so. What the FCC's current approach to TELRIC prevents – and rightfully so – is charging CLECs for the full reproduction costs of *inefficient* assets.

27. As noted in my initial Declaration, the FCC's current approach of viewing TELRIC as the construction and operating costs of a hypothetical efficient new firm entering the market today to compete for some or (consistent with the "TE," or "total element" component of TELRIC) all of the current demand, using state-of-the-art technology currently available in the market and deployed in the most efficient configuration – is fully consistent with the ways in which other regulatory agencies such as the Surface Transportation Board and the Federal Energy Regulatory Board calculate long-run forward-looking costs.[12]

[12] The ILECs continue to suggest that the Commission's TELRIC rules implicitly assume that an incumbent carrier would abandon its entire network and build a new network each time a significant advancement in technology occurred. This is not so. As the Commission's Reply Brief to the Supreme Court in *Verizon Communications* explained, TELRIC actually rests on the "rational economic assumption" that technological

28. The STB, for example, calculates long-run forward-looking costs by assuming entry of a most efficient hypothetical competitor, using a most-efficient network configuration designed to maximize capacity utilization, and employing state-of-the-art technology – an approach that has been upheld by the U.S. Courts of Appeals for the District of Columbia as an appropriate rate standard.

C. ILEC Comments Supporting Use of a Three- to Five-Year Planning Horizon (Hybrid SRIC/Reproduction Cost) In the Forward Looking Cost Standard Are Economically and Operationally Irrational.

29. The third proposal suggested by the NPRM appears to suggest that TELRIC could be calculated by: (1) replacing the long run time horizon of TELRIC with a shorter-run time horizon of three to five years; (2) combining the embedded costs of existing assets that *would not* be replaced within the next three to five years with the forward-looking costs of new assets and the existing assets that *would* be replaced within the next three to five year; or (3) developing the current value of all embedded assets on the basis of the piecemeal changes to an ILEC's network anticipated during the next three to five years. As I noted in my initial Declaration, paragraph 55 of the NPRM appears to suggest that alternative 2 is the one actually contemplated by the Commission.

30. Short-run incremental costs ("SRIC") reflect only the costs that will be incurred over the short-run to continue to provide the service or, alternatively, the costs that can be avoided, in the short run, if the service is not provided. As such, the SRIC

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improvements cause not the replacement of older and less efficient assets, but their downward revaluation. In competitive markets, the value of an asset does not depend on what it cost historically, but "on the cost of continuing to operate it relative to the cost of acquiring and operating" the new asset. FCC Reply Brief at 7-8. The construct of a hypothetical, efficient competitor is an analytical device that facilitates the identification of "the costs of acquiring and operating" these new assets.

standard treats the preponderance of the asset base as sunk, with a forward-looking cost of zero (no expenditure is required to continue to provide the service, and no expenditure can be avoided if the service ceases). Only in the long run – when the ILEC is faced with the choice of replacing the sunk asset or not – do costs for these assets exceed zero. Unless demand exceeds capacity, SRIC will be lower than LRIC.[13]

31. Apparently, recognizing that properly calculated SRIC should result in *lower* costs for UNEs, the Opening Comments filed by the ILECs either ignore this part of the NPRM entirely, or seek to marginalize it. Thus, Verizon states that "[t]his approach, which might be appropriate where carriers are deploying substantially new technology in place of a precursor technology, would be akin to the 'total service long-run incremental cost' approach regulators have previously used." Verizon at 37. In other words, SRIC would be appropriate only if a carrier were going to completely re-build its network, *i.e.*, if SRIC were equal to the Commission's current standards for implementing TELRIC. BellSouth is clearer, stating that

> BellSouth also endorses retaining a long-run orientation toward the development of forward-looking costs. A short-run approach does not provide a sufficient time frame within which to work through all the cost changes that would be encountered because of changes in production.[14]

[13] Dr. Weisman, testifying on behalf of Qwest, agrees with this assessment. Qwest/Weisman at ¶ 22, n. 45 ("Short-run marginal costs do not include capacity costs, but they are not necessarily inconsistent with the recovery of capital costs. For our purposes here, we assume that the incumbent provider is operating with excess capacity so that short-run marginal cost is lower than long-run marginal cost and hence prices set equal to short-run marginal cost would not enable the incumbent provider to recover its capital costs.").

[14] BellSouth Op. Comments at 3. Of course, as suggested above, BellSouth embraces the short-run -- as do the other ILEC's - by seeking to lock in the current mix of technologies, routes and other network attributes (or permitting only the minor changes in such attributes anticipated over a 3-year planning horizon).

32. In their Opening Comments, several ILECs advocate a cost standard that includes both the SRIC of the capacity additions and operating costs anticipated during the next three to five years *plus* the reproduction costs of assets that do *not* need to be acquired or replaced during the next three to five years. In addition, they seek to determine the reproduction cost of the assets that do not need to be acquired or replaced based on the costs they currently incur to make piecemeal expansions to their networks. BellSouth at 19-20; Verizon Op.Comm. at 25; Verizon/Shelanski at ¶¶ 15-18; Verizon/Kahn/Tardiff at ¶¶ 25-26; SBC at 27-28, 31-32.

33. At best (*i.e.*, if *no* additional capacity must be acquired in the short run), this approach reduces to a standard that is rooted in the embedded costs of the carrier, which was found to be inappropriate by the FCC in its *Local Competition Order*, by the Supreme Court in *Verizon Communications*, and by the NPRM itself. Even if additional investment in capacity *were* anticipated in the short run, the ILECs' proposed standard would still be economically irrational for several reasons. First, it would still value a large portion of the asset base at embedded costs (or at reproduction costs, which – as discussed above – the FCC itself has found to be an embedded cost standard), an approach which was prohibited by the Act, and has been found to be anticompetitive by the FCC in the *Local Competition Order* and by the Supreme Court in *Verizon Communications*. Second, as Dr. Willig explained in his initial Declaration, there is a clear inconsistency in allowing ILECs to recover the higher cost of piecemeal capacity additions in the short run – *e.g.*, "add-on" switching capacity, multiple undersized cables, intermittent replacements of telephone poles, structure sharing percentages that reflect the pre-existing character of existing parallel utility lines – without also valuing the *embedded* assets at a level that reflects their sunk character in the short run. As Dr.

Willig demonstrated, the cost premium received by providers of piecemeal additions to ILEC plant is economically rational only because a majority of the ILECs' assets are sunk -- making rational the option of paying a higher unit price for the piecemeal capacity additions. The proposals contained in the ILECs' Opening Comments seek to exploit this inconsistency even further -- in their efforts to generate UNE prices that are as high as possible -- by arguing that these higher unit prices that are currently paid for piecemeal expansion of their networks are the appropriate unit prices for use in calculating the reproduction costs of their *entire* embedded asset base.

34. In short, the ILECs' approach to TELRIC applies economic principles inconsistently is a blatant attempt to inflate UNE prices. In seeking to define what is an efficient mix of technologies and an efficient network architecture, the ILECs ask the Commission to rely on what exists today – and what exists today is different than what would be built if one were entering the market today *precisely* because the ILECs' cost of the legacy technologies, network architectures and network configurations that comprise their embedded plant is sunk, *i.e.*, the incremental cost of doing so is near zero (or at least far below the incremental cost of wholesale conversion to a newer, more efficient technology).

35. Similarly, the unit prices incurred today by the ILECs to maintain their networks or to undertake minor expansions of their networks clearly are higher than they would be if the entire network were either being "replaced" *or* being "reproduced," because suppliers and contractors understand that the sunk nature of the preponderance of the ILECs' assets makes any alternative of full change-out more costly in the short-run. If the entire network were being "replaced" or "reproduced," the economies of scale

associated with such a large undertaking would certainly result in unit prices from suppliers and contractors competing for a share of such a massive project that are achievable when performing piecemeal expansion.

36. But when it comes time to calculate UNE prices, the ILECs want to take the embedded, "locked in" mix of network technologies, network configurations, and asset costs developed under an assumption that much of the asset base is sunk – and apply it to *all* assets in the network, *i.e.*, assuming that *none* of the assets are sunk. The effect is to value the asset base at a level that is not only higher than (1) what it would cost today to completely *replace* the productive capacity of the ILECs' plant, but (2) higher than what it would cost today to *reproduce* the existing ILEC plant – with all of the inefficiencies inherent in the existing mix of technologies and network configurations – because the unit prices advocated by the ILECs overstate the unit prices that could be obtainable if the plant were being reproduced.

37. Prices at the levels advocated by the ILECs could not be sustained in competitive/contestable markets and are, therefore, flatly inconsistent with the principles that the NPRM recognizes are the foundation of economically rational pricing standards, including TELRIC. If a more efficient technology develops, or a more efficient opportunity to route cables emerges in competitive/contestable markets, the competitor employing legacy technologies in legacy configurations cannot charge more than (*i.e.*, it cannot value its assets at a level higher than) it would cost a competitor employing state-of-the-art technology efficiently deployed to enter the market – doing so would risk widespread market entry and loss of customers.

38. Of course, as I discuss above, a competitor relying upon legacy technology in legacy configurations may be able to successfully compete for years if the assets are long-lived, because it has no immediate need to replace the bulk of its assets. In fact, it can reduce costs further by *extending* the life of its legacy assets and delaying even further the need to replace its legacy network (as I noted in my initial Declaration, this is a widespread response in competitive and contestable markets to technological innovation). As a new technology takes hold, however, the competitor relying on legacy assets may find that it is paying more for periodic replacement of its legacy assets. Does this mean that its network is worth more and that it can charge its customers more than would be charged by a new entrant employing the state-of-the-art technology efficiently deployed? Of course not – yet this is precisely what the ILECs' Opening Comments seek to achieve.

39. In competitive and contestable markets, the reality is that the incumbent will continue to employ its legacy assets in their legacy configuration – even as prices for replacements rise – *until* it becomes less expensive to replace its legacy network with the state-of-the-art technology efficiently deployed. Throughout this process, however, it will likely set prices just at or just slightly below those that would induce entry by a competitor employing state-of-the-art technology efficiently deployed in order to maintain its customer base and economies of scale, scope and density. This is because the economic *value* of this competitor's network is inexorably capped by the cost of deploying current, most efficient technologies.

40. In short, prices based on the FCC's current TELRIC standard are fully consistent with the competitive/contestable market standard; prices that would result from

the proposals set forth in the ILECs' Opening Comments exceed those that would be sustainable in a competitive/contestable market and are therefore inconsistent with the 1996 Act.

V. NETWORK ROUTING ISSUES

41. The NPRM seeks comment on several issues related to network routing and construction, including:

- What network routing assumptions would be consistent with the Commission's tentative conclusion that UNE prices "should account for the real-world attributes of the routing and topography of an incumbent ILEC's network," *i.e.*, is there a theoretical rationale for an approach that ignores the existence of roads, buildings and natural obstacles.
- Regardless of whether the NPRM's "tentative conclusion" is adopted, should the "scorched node" assumption be modified to adopt routing assumptions that follow more closely an ILEC's existing network configuration?
- How would a decision to more closely account for an ILEC's embedded network configuration and topography affect the use of computer cost models? Is it more difficult to model the actual network configuration or a hypothetical configuration?

42. All of the ILECs appear to embrace the NPRM's tentative conclusion that UNE prices should more closely account for the routings and topographies inherent in their existing networks. Qwest 7-8, 30-32; NERA at ¶ 47; SBC at 4, 20-24; Aron-Rogerson at 18-15; Verizon at 25; BellSouth at 3, 14-15. However, certain ILECs stop short of actually embracing the proposition that TELRIC calculations should employ "actual" routings and topographies – in tacit recognition of the point I made in my initial Declaration, *i.e.*, that ILECs are incapable of providing this information. This admission is clearest in Verizon's initial Comments, which state that